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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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EXAMINER

LE, BRIAN Q

ART UNIT PAPER NUMBER

2624

DATE MAILED: 08/08/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/420,772

Applicant(s)

YAMADA ET AL.

Examiner

Brian Q. Le

Art Unit

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 05/30/2006.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1,4,7,12-16 and 19-22 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1,4,7,12-16 and 19-22 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

Continued Examination Under 37 CFR 1.114

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 05/30/2006 has been entered.

Response to Amendment and Arguments

2. Applicant's arguments with regard to claims 1, 16, 19, 21 and 22 have been fully considered, but are not considered persuasive because of the following reasons:

Regarding independent claims 1, 16, 19, 21 and 22, the Applicant states that the FIG. 12 and original disclosure page 20, lines 5-12 show the support of "two separate and independent lines". The Examiner agrees that page 20, lines 5-12 of the specification shows that two lines cross as shown in FIG. 12. However, the degree of independence is not clear because two lines are crossed/intersect one another. If there is an intersection, the intersected point is depended on the lines values. Thus if the lines values change, then this will result a new intersect point. Since the intersected point is the property of both lines, the two lines are not independent and are not separated from one another since the intersect point still depend on the values of both lines. In addition, Miyashita et al. U.S. Patent No. 6,031,543 teaches second conversion line intersects first conversion lines (FIG. 29-31 and column 9, lines 54-63) and therefore second conversion line is independent of the first conversion line as defined by the Applicant's Remarks filed 05/30/2006.

Thus, the rejections of all of the claims are maintained.

Claim Rejections - 35 USC § 112

3. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

4. Claim 1, 3-4, 7, 12-16, and 19-22 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention. Regarding independent claims 1, 16, 19, 21, 22, the language limitation of "...wherein the second conversion line intersects the first conversion line and is set independently from the first conversion line;" (emphasis added) is not supported in the original disclosure. As explained above, the Examiner disagrees that page 20, lines 5-12 of the specification and FIG. 12 show the independence between the first conversion line and the second conversion line. Also the limitation "from the minimum output value to the intersection of the first and second conversion lines, and the second conversion line, for the high-saturation side, from the intersection of the first and second conversion lines to the maximum output value;" is not supported in the original disclosure. Please point out the exact page number and line number for the support of this limitation.

Claims not specifically addressed are rejected because they are dependent of the rejected claims.

Claim Objections

5. Claims 1, 3-4, 7, 12-16, and 19-22 objected to because of the following informalities:

Regarding Independent claims 1, 16, 19, 21, 22, the limitation “a saturation conversion characteristic generating unit ... to the maximum output value” is confusing due to grammatical and idiomatic problems in conforming with English Language. Appropriate correction is required. Claims not specifically addressed are objected because they are dependent of the objected claims. The prior art rejection based on the Examiner’s best understanding.

Claim Rejections - 35 USC § 102

6. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in a patent granted on an application for patent by another filed in the United States before the invention thereof by the applicant for patent, or on an international application by another who has fulfilled the requirements of paragraphs (1), (2), and (4) of section 371(c) of this title before the invention thereof by the applicant for patent.

7. The changes made to 35 U.S.C. 102(e) by the American Inventors Protection Act of 1999 (AIPA) do not apply to the examination of this application as the application being examined was not (1) filed on or after November 29, 2000, or (2) voluntarily published under 35 U.S.C. 122(b). Therefore, this application is examined under 35 U.S.C. 102(e) prior to the amendment by the AIPA (pre-AIPA 35 U.S.C. 102(e)).

8. Claims 1, 4, 7, 12-16, and 19 - 22 are rejected under 35 U.S.C. 102(e) as being anticipated by Miyashita U.S. Patent No. 6,031,543.

Referring to claim 1, Miyashita teaches an image processing apparatus comprising:

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Saturation calculation (saturation correction) unit (FIG. 16) arranged to calculate saturation information of an image;

A first setting unit, arranged to set a first conversion line for a low-saturation side; (column 6, lines 48-62; column 8, lines 3-15 and 37-55 and column 10, lines 25-44) (Miyashita teaches the data manipulation of parameters for color correction which including hue or saturation (column 8, line 9) for whether at low or high-saturation), wherein the first conversion line converts a minimum input value of a saturation of the image to a minimum output value (low saturation/ a_{MIN}/b_{MIN}) (a_{MIN}/b_{MIN} by the linear conversion curve will generate the minimum output value) (Please refer to column 12, lines 30-65; column 13, lines 5-47 and FIG. 33-FIG. 37).

A second setting unit, arranged to set a second conversion parameter for a high-saturation side; (column 6, lines 48-62; column 8, lines 3-15 and 37-55 and column 10, lines 25-44) (Miyashita teaches the data manipulation of parameters for color correction which including hue or saturation (column 8, line 9) for whether at low or high-saturation), wherein the second conversion line converts a substantially maximum input value of a saturation of the image to a substantially maximum output value (high saturation/ a_{MAX}/b_{MAX}) (a_{MAX}/b_{MAX} by the linear conversion curve will generate the maximum output value) (Please refer to column 12, lines 30-65; column 13, lines 5-47 and FIG. 33-FIG. 37), wherein the second conversion line intersects the first conversion line (FIG. 29-31 and column 9, lines 54-63) and is set independently of the first conversion line (FIG. 16, FIG. 27C, FIG. 29 and FIG. 31).

A saturation conversion characteristic generating unit arranged to generate a saturation conversion characteristic on the basis of the first conversion line, for the low-saturation side, and the second conversion line, for the high-saturation side (column 8, lines 3-29);

A saturation conversion unit (FIG 44 and FIG 45) arranged to convert the saturation (column 3, line 40-44) of the image on the basis of the saturation conversion characteristic.

It is clear that saturation calculation also is saturation correction especially as demonstrated in FIG 16, a saturation correction requires analysis of color and colors saturation conversion.

Referring to claim 4, Miyashita teaches the apparatus further comprising:

An instruction unit arranged to accept an instruction input by a user (column 3, line 58-60; column 4, lines 1-26) in order to determine the first conversion line, for the low-saturation side, and the second conversion parameter, for the high-saturation side (column 10, lines 22-29).

Referring to claim 7, Miyashita teaches the apparatus wherein the saturation conversion characteristic exhibits a monotonous increase (column 11, line 33-46).

Referring to claim 12, Miyashita discloses the apparatus further comprising:

A detection unit arranged to detect a color distribution of the image (FIG 6, FIG 7 and column 5, line 54);

A generation unit arranged to generate gradation correction information (column 8, line 44-46) of the image on the basis of the color distribution; and

A gradation correction unit arranged to perform gradation correction of the image on the basis of the gradation correction information (column 8, line 22-29 and column 8, line 52-55).

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For claim 13, Miyashita also teaches the apparatus wherein said saturation conversion unit (FIG 44 and FIG 45) performs saturation conversion on an image which has undergone the gradation correction (column 9, line 21-24) by said gradation correction unit. Also it is inherent that gradation correction is required during the gradation conversion process which is clearly described by Miyashita.

Referring to claim 14, Miyashita further teaches the apparatus wherein said generation unit comprises:

A highlight calculation unit (FIG 25, FIG 26A, FIG 26B, FIG 26E and FIG 26F) arranged to calculate highlight area information (column 9, line 25-31) of an image on the basis of the color distribution; and

A white balance calculation unit (FIG 28-115 and 117) arranged to calculate white balance information on the basis of the highlight area information (FIG 29-115 and 117, FIG 30-115 and 117, FIG 31-115 and FIG 32-115) and a predetermined highlight value (column 10, line 24-32, "HL" parameters), and wherein

Said gradation correction unit corrects gradation of the image on the basis of the white balance information and the highlight value (column 10, line 25-44).

It is inherent that highlight and intensity are the white balance calculation. Without these two parameters, white balance calculation can not be processed properly.

Referring to claim 15, Miyashita discloses the apparatus wherein said generation unit comprises:

A shadow calculation unit arranged to calculate shadow information of an image (FIG 25, FIG26C, FIG26D-FIG26F, FIG28-32); and

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A black balance calculation unit (FIG 25, FIG26C, FIG26D-FIG26F and FIG28-116 and 117) arranged to calculate black balance information on the basis of the shadow area information (FIG 28, 116-117; FIG 29,116-117; FIG 30, 116-117) and a predetermined shadow value (column 10, line 24-32, "SD" parameters), wherein

Said gradation correction unit corrects gradation of the image on the basis of the black balance information and the shadow value (column 10, line 25-44).

It is inherent that shadow and the intensity are also the black calculation. Without these two significant means, black balance calculation can not be determined.

For claims 16, please refer back to the explanation of claims 1 and 3.

For claim 19, please refer to claim 1 for all the limitation. Furthermore, Miyashita discussed the concept of recording medium (storage system) (column 1, 64-67) that allow program codes (software or executable program) (column 3, line 62-63) to allow user to control the image processing method. Therefore, it is inherent to have a recording medium comprising program codes of an image processing method comprises the limitation of claim 1.

Regarding claim 20. please refer back to claim 4 for the explanation.

For claims 21-22, please refer back to claims 1 and 19 for the teachings and the explanations.

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Contact Information

9. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Brian Q. Le whose telephone number is 571-272-7424. The examiner can normally be reached on 8:30 A.M - 5:30 P.M.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jingge Wu can be reached on 571-272-7429. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



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